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Applying the Three C

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Applying the Three C's of Sustainable Development to Defense Department Planning

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Preface & Acknowledgements

Welcome to our Ninth Annual Acquisition Research Symposium! This event is the highlight of the year for the Acquisition Research Program (ARP) here at the Naval Postgraduate School (NPS) because it showcases the findings of recently completed research projects—and that research activity has been prolific! Since the ARP's founding in 2003, over 800 original research reports have been added to the acquisition body of knowledge. We continue to add to that library, located online at www.acquisitionresearch.net, at a rate of roughly 140 reports per year. This activity has engaged researchers at over 60 universities and other institutions, greatly enhancing the diversity of thought brought to bear on the business activities of the DoD.

We generate this level of activity in three ways. First, we solicit research topics from academia and other institutions through an annual Broad Agency Announcement, sponsored by the USD(AT&L). Second, we issue an annual internal call for proposals to seek NPS faculty research supporting the interests of our program sponsors. Finally, we serve as a "broker" to market specific research topics identified by our sponsors to NPS graduate students. This three-pronged approach provides for a rich and broad diversity of scholarly rigor mixed with a good blend of practitioner experience in the field of acquisition. We are grateful to those of you who have contributed to our research program in the past and hope this symposium will spark even more participation.

We encourage you to be active participants at the symposium. Indeed, active participation has been the hallmark of previous symposia. We purposely limit attendance to 350 people to encourage just that. In addition, this forum is unique in its effort to bring scholars and practitioners together around acquisition research that is both relevant in application and rigorous in method. Seldom will you get the opportunity to interact with so many top DoD acquisition officials and acquisition researchers. We encourage dialogue both in the formal panel sessions and in the many opportunities we make available at meals, breaks, and the day-ending socials. Many of our researchers use these occasions to establish new teaming arrangements for future research work. In the words of one senior government official, "I would not miss this symposium for the world as it is the best forum I've found for catching up on acquisition issues and learning from the great presenters."

We expect affordability to be a major focus at this year's event. It is a central tenet of the DoD's Better Buying Power initiatives, and budget projections indicate it will continue to be important as the nation works its way out of the recession. This suggests that research with a focus on affordability will be of great interest to the DoD leadership in the year to come. Whether you're a practitioner or scholar, we invite you to participate in that research.

We gratefully acknowledge the ongoing support and leadership of our sponsors, whose foresight and vision have assured the continuing success of the ARP:

- Office of the Under Secretary of Defense (Acquisition, Technology, & Logistics)
- Director, Acquisition Career Management, ASN (RD&A)
- Program Executive Officer, SHIPS
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- Office of the Assistant Secretary of the Air Force (Acquisition)
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- Program Executive Officer, Littoral Combat Ships

We also thank the Naval Postgraduate School Foundation and acknowledge its generous contributions in support of this symposium.

James B. Greene Jr.
Rear Admiral, U.S. Navy (Ret.)

Keith F. Snider, PhD
Associate Professor

Panel 25. Contemporary Acquisition Issues

Thursday, May 17, 2012	
3:30 p.m. – 5:00 p.m.	**Chair: Harry Hallock,** Deputy Director, Army Contracting Command ***Applying the Three C's of Sustainable Development to Defense Department Planning*** Elliot Maltz, *Willamette University* ***Past Performance as an Indicator of Future Performance: Selecting an Industry Partner to Maximize the Probability of Program Success*** James Bradshaw and Su Chang *The MITRE Corporation* ***Contracting Officer Workload and Contingency Contracting: Evidence From the Department of Defense*** Patrick Warren and Nancy Huff *Clemson University*

Harry Hallock—Mr. Hallock became deputy director of the U.S. Army Contracting Command (ACC), a major subordinate command of the U.S. Army Materiel Command (AMC), on October 3, 2011. ACC, headquartered at Redstone Arsenal, AL, includes two subordinate commands, the Mission and Installation Contracting Command and the Expeditionary Contracting Command; and six major contracting centers that support AMC's other major subordinate and life cycle management commands. ACC provides global contracting support to warfighters through the full spectrum of military operations. ACC consists of more than 5,800 military and civilian personnel worldwide who awarded and managed nearly 198,000 contractual actions valued at an estimated $86.8 billion in fiscal year 2011.

Mr. Hallock previously served as executive director of the ACC Contracting Center in Warren, MI. As the senior civilian procurement authority, he also advised the Tank-Automotive and Armaments Command (TACOM) Life Cycle Management Command (LCMC) commanding general on the total acquisition process, including policy development, compliance and review, contract pricing, contract management, and associated support.

At ACC-Warren, Mr. Hallock oversaw warfighting readiness for the Soldier by providing contracting and acquisition support for combat and tactical vehicle systems, deployment and Soldier support equipment, and armament. He directed more than 800 civilian and military personnel located at six separate geographic sites and who administer more than $119 billion in active contracts. Since fiscal year 2007, the contracting center has executed more than 113,536 contract actions totaling $100.2 billion in obligations. Mr. Hallock was responsible for contracting offices located at Rock Island Arsenal, IL; Anniston Army Depot, AL; Red River Army Depot, TX; Sierra Army Depot, CA; and Watervliet Arsenal, NY; as well as the headquarters in Warren, MI.

Mr. Hallock was appointed to the senior executive service on May 13, 2007. Before his appointment, he served as the associate director for operations, and prior to that as chief of the research and development (R&D) and the installation support contracting division in Warren, MI.

Mr. Hallock holds a bachelor's degree from the University of Delaware in Newark, DE, and a master's degree from the Naval Postgraduate School in Monterey, CA. He is Defense Acquisition Workforce Improvement Act Level III certified in Contracting, Program Management and Logistics. Mr. Hallock has received the Department of the Army Achievement Medal for Civilian Service and the Department of the Army Commander's Award for Public Service.

Applying the Three C's of Sustainable Development to Defense Department Planning

Elliot Maltz—Maltz received his MBA from the University of California at Davis and his PhD in marketing from the University of Texas at Austin. Prior to coming to the Atkinson School, he taught for six years at the Marshall School of Business at the University of Southern California. His teaching interests include marketing management, marketing strategy, new product planning, sustainability management, and supply chain planning. His research has been highlighted in *Harvard Business Review*, *Journal of Marketing*, *Journal of Marketing Research*, *Journal of the Academy of Marketing Science*, *Journal of Business Research*, *Journal of Product Innovation Management*, *Journal of Business Logistics*, *Long Range Planning*, and *Sloan Management Review*. He has consulted and conducted workshops for a variety of concerns at many organizations, including Texas Instruments, Hewlett-Packard, Johnson and Johnson, 3M, The Samsung Corporation, The Monitor Group, The Society for Competitive Intelligence Professionals, The Sony Corporation, Weyerhaeuser, and The Center for Telecommunications Management. [emaltz@willamette.edu]

Abstract

This exposition reviews the extant literature on sustainable development and interviews from senior executives from multinational enterprises to develop a framework for understanding the conditions which generate high shared value initiatives for global enterprises and for the broader system. We consider how the lessons from private industry may be applied in the defense department acquisition process. In general, our analysis indicates that both types of enterprises (private and military) are most likely to generate high shared value when they have the capability to do so, there is consistency between the creation of primary stakeholder value and system value, and that the system value can be cultivated beyond the enterprise that created the original initiative. From a military acquisition perspective, our analysis suggests that additional factors may need to be considered in the evaluation of partners in light of the revised energy policy currently being implemented.

Introduction

The Deputy Assistant Secretary of the Navy for Acquisition and Procurement's (DASN AP) mission is "to shape acquisition and logistics policies that assure our Sailors and Marines are mission capable and have a technological edge over our adversaries." The Department of Defense (DoD) and its individual branches (i.e., the Navy, Army, and Air Force) are beginning to develop acquisition policies that reflect a growing belief that many of the resources they have relied on to fulfill their mission may be in short supply in the foreseeable future. Thus, the DoD is funding projects to reduce energy consumption (ECN Daily, 2012) and to shift from carbon-based sources to more renewable sources of energy (Baillie, 2011; Casey, 2011). Recently, Deputy Assistant Secretary of the Army for Energy and Sustainability Richard Kidd said the Army would likely invest $800 million in performance-based contracts over the next two years to realize energy savings and efficiencies at its facilities (Federal News Radio, 2012).

These new policies may be thought of as the beginning of a strategic shift in acquisition policies akin to when Winston Churchill, then the UK's First Lord of the Admirality, ordered the British Royal Navy to switch its fuel source from coal to oil in its new battleships. This was not only a defining moment in the history of warfare, but it also led to the development of the oilfields of the Persian Gulf and put the world on a path towards growing oil dependency that has defined energy economics in recent decades. A shift of this magnitude requires a careful and structured assessment of the investments being proposed and the partners who will participate in the development of the infrastructure required to support the shift.

Similar issues are being confronted in the private sector. Large multinational companies (MNCs) are beginning to face the fact that existing policies focused on minimizing costs at the expense of the longer term viability of the system may be short sighted. Thus, MNCs are now grappling with how to build sustainable business models with a broader systems focus. The purpose of this exposition is to review a recent study that combined scholarly literature with interviews with over 50 high-level private-sector managers about how they are addressing these issues. Our goal is two-fold. We provide state-of the-art knowledge on the various ways investment decisions incorporating a sustainability element are formulated in multinational corporations. In doing so, we also shed light on which types of organizations are likely to be good partners for development of the broader infrastructure needs of the military in the shift to a more sustainable future.

How Do Private-Sector Managers Assess Sustainability Initiatives?

Over the last decade, there has become a growing consensus that the notion of sustainable development has crossed the line from business jargon to a serious issue for companies. Managers are increasingly seeing sustainable activities as strategic as they impact the core business, its growth, profitability, and survival (see, for example, Husted & Allen, 2009). This is demonstrated in a recent study that found that 93% of CEOs now believe sustainability will be critical to the future success of their companies (UN Global Compact and Accenture, 2010).

This important shift in the participation of large MNCs is crucial to a global shift towards sustainable development (Kolk & van Tulder, 2010). Because these companies are by their very nature multinational, they have the opportunity to generate worldwide practices that lead to more sustainable development, should they choose to do so. Because at this point there are no global regulatory agencies to mandate and enforce sustainable policies MNCs could be the quickest, most efficient, and perhaps only way to diffuse sustainable development practices globally. The sheer size of MNCs make their cooperation crucial to any significant effort to create systemic change in development practices. The huge resource base of these companies means that they have the opportunity to create new and inventive ways to develop sustainable practices. Thus, the practices of these companies have a huge impact on the sustainability of development efforts globally.

The purpose of the study described below was to address the following issues:

- What are the key success factors in successfully creating sustainable initiatives?
- Should all MNCs engage in the same kind of sustainability initiatives?

Sustainability Initiatives

As noted earlier, our focus is on companies with a global footprint. We focused on the decision-making of MNCs to develop *sustainability initiatives* (SIs). These are formally defined as initiatives that meet a company's obligations to society over and above its economic and legal obligations (McWilliams & Siegel, 2001; Melo & Galen, 2011) and are not solely focused on enhancing the *short-term* economic value of the company (Brundtland Commission, 1987).

Our research consisted of a review of relevant literature and personal interviews of between 45 and 90 minutes with more than 50 senior executives who had primary responsibility for developing initiatives with a social component. That is a component that went beyond generating immediate cash flows. After briefly describing the purpose of our interview and relating our definition of SI, we asked managers to discuss with us one or more SIs that they had been involved in with their company. We then compared their

characterizations with existing literature in sustainability and related disciplines. In this study, we focus on their descriptions of the initiatives they viewed as "successful," based on the definition discussed in the next section.

The Three C's of Sustainability Initiative Success

We define SI success in terms of shared value. That is the total value that accrues to the company and the broader system in which it operates (Maltz, Ringold, & Thompson, 2011; Porter & Kramer, 2011). Based on our scan of the literature, company documents, and discussions with executives, we propose that shared value of SIs will most likely be created when a company has and leverages its unique *capabilities*. However, the shared value of the initiative is only likely to be maximized when it is *perceived* that the value is *consistently* accruing to both the company and other entities in the system in which it operates, and that the value of the initiative to the system can be *cultivated* by other entities in the system beyond the originating enterprise.

Capabilities and Shared Value

Our three Cs approach builds off the resource-based view that suggests unique capabilities and competencies explain how companies succeed (Porter, 1985; Prahalad & Hamel, 1990; Barney, 1991; Teece, Pisano, & Shuen, 1997). In the resource-based view, a company's unique competency provides the opportunity for long-term returns to shareholders as long as the competency remains impervious to competitive threats and continues to provide added value to the company's customers and/or shareholders. Empirical studies of one type of negative externality reduction effort—environmental management—use the resource-based view to demonstrate how singular capabilities affect financial success (Nehrt, 1996; Russo & Fouts, 1997; Judge & Douglas, 1998; Graves & Waddock, 2000). In a more recent study, Maltz et al. (2011) demonstrated that even if a company places its interests above the interests of other stakeholders, it may create tremendous shared value by leveraging its core capabilities. These studies empirically support utilizing existing capabilities to create shared value.

This seems to be consistent with our interviews. We specifically queried executives to tell us about an SI they viewed as a success. In discussing "successful" SIs leveraging, existing capabilities consistently emerged:

> "_____" pursued mentoring opportunities to help in design and flow through process engineering expertise, quality, and production expertise. (Manager, Natural Resources at a consumer products company discussing aiding an organization with a social mission to become a partner)
>
> We consider ourselves enablers. What we have found is that the key to deploying technology at scale is to be able to manufacture it affordably. We are trying to drive solar down to cost parity with fossil fuel. In the case of solar there is an implicit social mission. (Head Corporate Responsibility and Sustainability, capital equipment company discussing the company's quest to increase solar power usage)
>
> We are also the only large coffee company who has an agronomist in the coffee growing regions and offer the expertise for free to make their growing practices more sustainable. (Director, Environmental Affairs, coffee company)

P1a: Shared value can only be maximized by an SI leveraging capabilities of the company.

Insights for Acquisition

The importance of capabilities in creating high value initiatives is reflected in two relatively common strategic decisions. The first is the make-or-buy decision. Although this is an everyday choice made by large organizations, the magnitude of the projected shift requires that military planners decide whether it is in their best interest to actually increase the competencies necessary to reduce energy usage and/or modify the mix of energy sources substantially. This requires careful reflection on the existing competencies of the military and the projected new competencies required to deal with the shift. Only then can acquisition managers efficiently make sound make-or-buy decisions.

In the case of buy decisions, the key issue is purchase partner. The military has established long-term relationships with existing partners, which are in part based on the existing energy regime. Although many of these partners undoubtedly have capabilities that make them suitable for continued or increased relationship building in the future, many may not. Moreover, some capabilities, as we discuss later, likely come from non-traditional partners. As such, the acquisition team has to widen its net to find suitable long-term partnerships reflecting the new reality.

Consistency and Shared Value

Consistency is defined as the *perceived* congruence of shareholder and system value in the creation of an SI. In other words, in creating system value, decision-makers must perceive that there is no negative financial impact on the company. Although the capability to create shared value may exist, the motivation to utilize this capability in the service of system value may be lacking on the part of shareholders and/or managers. If there is conflict between delivering shareholder and system value, difficulties in implementation may limit the amount of value actually created.

Consider the case of a tobacco company trying to reduce smoking. One could argue that a unique core capability of a tobacco company is to understand and communicate with its target market—smokers. Indeed, we would expect that they would understand the psychological profile of the market better than any other entity given the extensive research they have conducted. Thus, they probably have the capability to reduce smoking in their target segment. Ultimately, a large amount of system value could be created.

However, most managers believe that they have a legal fiduciary responsibility to maximize shareholder value. In this case, value to shareholders depends on maintaining or increasing smoking. As such, should the company try to implement this SI, they are likely to encounter considerable resistance within the enterprise in attempting this shift. Thus, at the very least, consumption reduction efforts are likely to be delayed. In the worst case, execution may be intentionally or unintentionally flawed due to uninspired efforts on the part of employees attempting to accomplish conflicting goals. In other words, there is perceived inconsistency of the SI on the part of managers. Truly creating significant shared value consistency must be perceived by managers of the company.

This viewpoint was consistently raised in our interviews. The following quote is illustrative:

> Social value is a function of the economics at _____. Our efforts consider the societal value. The things described above are investments that will lead to social value. But it is not the key driver of the initiative. (Head of Corporate Responsibility and Sustainability, capital equipment supplier)

P1b: Shared value of an SI will be limited if the consistency between shareholder and system value is not perceived by managers of the company.

This notion that the evaluation of SI efforts should consider effects on both the company and the society came through in our interviews. However, the emphasis on profitability versus societal benefit differed significantly. On the one hand, there was what we refer to as the *economics first* perspective. Basically, this view is characterized by one executive we interviewed:

> Economics was the prime driver. We had created this new division Energy and Environmental Solutions. I recall our chief technology officer describing the alternatives. We were interested in getting into the energy area and all of the solutions were alternative energy solutions (renewable or energy efficiency). However, energy was chosen because of the size of the market coupled with our own know how making renewable energy a good bet. (Head of Corporate Responsibility and Sustainability, capital equipment company)

A second perspective was the *emerging systems* view. This label reflects that, in some companies, there was an emerging consensus that corporate social responsibility (CSR) considerations should be specifically considered in the financial evaluation. This perspective is represented by the following quote:

> One of the things I drove at [electronics company] was that you can't divorce social and economic value. In an electronics company you always need to look at performance, cost and quality, so employees were used to optimizing across multiple factors in their design. We realized that social issues, with a primary focus on sustainability should just become a fourth criteria. Eventually, sustainability became a good lens for looking at inefficiencies. (Corporate Sustainability Officer, electronics company)

The third perspective may be viewed as the *mission driven* perspective. This view typically emerged at companies where the founders embedded a CSR ethic in the company from the start. Managers at these companies were not shy about discussing how mission overshadowed immediate financial performance.

> It started with our founders. When they set up the company, it was with the philosophy of making a profit as simply a means to improve society. It is in our DNA. It permeates the company, and employees come to our company because of this philosophy. . . . Sustainability is embedded in our product and businesses. It is not a bolt-on. We always do believe that an initiative needs to be good for the business, customers, and the environment. It is not philanthropy. It is business. (VP of Environmental Sustainability, technology conglomerate)

> At [coffee company], the idea that we can do something that benefits society and the company imbues everything that we do and has always done so from the origins of the company. (VP of Corporate Social Responsibility, coffee products company)

To summarize, our interviews indicated that although both shareholder and social value are considered in the evaluation of SIs, companies generally do not invest in initiatives that hurt the company financially. However, different companies have different emphases on the relative importance of shareholder value. Moreover, the specificity and timeframe through which financial value must be created varied among companies we talked with. On the one hand, there were companies that needed a clear and well-defined path to profitability prior to investing in an SI:

> We found a variety of problems with the first few approaches. Increased cost was a common problem. Some of this was health code issues. Working with logistics people we found what one design placed a high burden on internal groups. We also considered how the solution would look to visitors. Cost and legality (health code) were the primary criteria. (Chief Sustainability Officer at an electronics company discussing an initiative to eliminate bottled water at the company's events)

> We are trying to drive solar down to cost parity with fossil fuel. In the case of solar there is an implicit social mission. My own feeling is that we could change the nature in terms of making social a bigger decision driver but if I proposed this the question that would be asked of me is "is this what investors want to hear? (Head of Corporate Responsibility and Sustainability, capital equipment company)

However, there were other companies that were willing to consider longer term value adds to shareholders:

> Our [consumer products company's] operational expertise was used at [socially motivated partner]. We then urged them to spread its wings. We recognized that [socially motivated partner] needs to diversify the product line beyond us, making them a stronger business and a better partner for [consumer products company]. (Manager, Natural Resources, consumer products company)

> We would not have continued the initiative without value to the company. For this to be sustainable to a for-profit business there must be a benefit to the business. But we don't need a tangible link to profitability we just need an inkling that it is good for the business. (Vice President Corporate Social Responsibility, coffee products company)

Thus, it appears that perceptions of consistency vary by company. For economics-first companies, the outcome likely needs to have well-defined economic return and timeframe. For mission-driven companies, the benefit may not need to be so highly specified, and for emerging-systems companies, it may be somewhere in between.

P2c: Consistency of shareholder and social value will be perceived differently depending on the relative emphasis at the company on shareholder versus societal value.

Insights for Acquisition

The military will be investing a lot in partnerships to reduce energy consumption and/or shift energy sources. Our analysis suggests that partners who can effectively implement these programs must not only have the capabilities but also perceive consistency between implementing the programs and the broader interests of the company. In many cases, the current cash flow of the company may depend on trying to perpetuate the use of existing energy sources. Thus, it would behoove the DoD to develop some structured way to measure consistency across all potential partners. To begin to develop such a procedure, it is important understand how various views on consistency can affect implementation of shared SIs. With this in mind, we overviewed an externalities-based categorization scheme recently introduced by Maltz et al. (2011). Management guidance from this section is summarized in Table 1.

Table 1. Managerial Implications of Consistency

Type of Initiative	Example	Key Barriers to Shared Value Maximization
Negative Operating Externality Reduction	Wal-Mart's supply chain waste reduction initiative Which is similar to the military effort to reduce the usage of carbon based sources of energy.	No serious barriers to shared value maximization. This is the low hanging fruity. Implementation of these kinds of initiatives builds confidence for future SI efforts. May require building relationships with new partners.
Negative Consumption Externality Reduction	Tobacco Communication Campaign to reduce teen smoking	Major barrier is the perceived inconsistency between creating shareholder value and system value. Most likely Solution: Develop the capabilities to take this on internally. Alternative: Frame the initiative in a way that emphasizes new market opportunities for a partner.
Positive Operating Externality Generation	Solar Decathlon initiative to encourage students to pursue science and engineering education.	Major barrier is the perceived inconsistency between creating shareholder value and social value. Most Likely Solution: Building relationships with non-traditional partners like Not for Profits in the energy arena.
Positive Consumption Externality Generation	Migrating proven energy consumption reduction investments to the broader public beyond the military.	Major barrier for private sector is the perceived inconsistency between creating shareholder value and social value on the part of the targeted population. Most Likely Solution: Develop the capabilities to take this on internally. Alternative: Frame the initiative in a way that emphasizes new market opportunities for a partner.

Consistency and SIs: An Externalities View

> Externalities exist when private costs or benefits do not equal social costs or benefits. Negative externalities occur when production or consumption imposes uncompensated costs on other parties. Positive externalities occur when production or consumption yields positive benefits to others without those paying. (Samuelson & Nordhaus, 1998)

This literature suggests that the societal value of corporate social behavior can best be evaluated when both the costs and benefits accruing to the business and positive and negative externalities are taken into account. Viewing the CSR literature through an externality lens, Maltz et al. (2011) created a typology of SIs described below (see Table 2).

Table 2. A Typology of Corporate Social Investment Alternatives, With Examples

	Negative Externality Reduction	*Positive Externality Generation*
Operating	Pollution abatement Occupational health and safety improvements	Applied R&D Infrastructure development Employee training
Consumption	Enhancement of drug regimen compliance Programs to foster responsible alcoholic beverage consumption	Exercise programs Preventative medicine Safety features and equipment

Negative Externality Reduction

Negative externalities result when operating or consumption activities associated with a business's core processes yield unintended social costs not entirely borne by the business or its customers (Samuelson & Nordhaus, 1998). *Negative operating externality reduction*, then, refers to efforts to mitigate societal costs associated with making a product available for consumption.

From a three Cs perspective, negative operating externalities are likely to be the easiest type of SI to implement in the service of shared value for all types of MNCs. Most MCNs have a good sense of their internal operations, so they should be able to bring some capabilities to bear in trying to reduce operational externalities. Moreover, from a consistency perspective, they should be able to track the economic benefits of reducing waste in their operations using very tangible measurements. Finally, because they are large companies with big global footprints and significant supply chain leverage, if they change their operations, then supply chain partners will likely extend these incremental changes to its broader set of customers to keep their total operations relatively simple.

Take, for example, Wal-Mart's initiative to reduce carbon-based sources of energy and waste in its supply chain. Its partners shared the costs to implement this initiative of approximately $500 million; but the benefits estimated, at approximately $3.4 billion annually, went to the broader society, and an estimated $10 billion in cost reductions went to shareholder value (Maltz et al., 2011). Thus, even if the company is primarily economics

focused, significant shared value can be created by focusing on negative operating externality reduction.

Just like Wal-Mart, the military is trying to reduce carbon-based sources of waste in its supply chains. Certainly, the military can (and probably has) taken note of the methods Wal-Mart used to streamline its supply chains. The more important lesson, however, is that negative operational externality reduction is often the low-hanging fruit that is easiest to implement and document. Demonstrating effective implementation in a way that has positive effects on the primary mission to make a more effective fighting force has the added value of reducing implementation barriers of future SI efforts.

Negative consumption externality reduction refers to efforts to mitigate the costs imposed on society as a result of the acquisition, use, and disposal of a product. Campaigns by beer companies to "drink responsibility" may be viewed as an SI to reduce negative externalities of alcohol consumption in terms of health costs to society. From a military perspective, campaigns to reduce energy consumption at military bases would be considered negative consumption externality reduction.

From a three Cs perspective, the biggest barrier to creating shared value of consumption externality reduction efforts is consistency. For most companies reducing consumption means reducing sales of their own products. Thus the obvious conflict, from the company's standpoint, of trying to execute these SIs is to create a perception throughout the company that this initiative does, at worst, not have a negative impact on profitability. As such, finding suitable, traditional partners in the private sector focused on helping the military reduce consumption of its products may be challenging. This suggests that this is one area where the military may invest internally in capabilities to understand how to reduce consumption of the older energy sources.

One place where economic and system values are likely to be consistent for private companies is where the shift in consumption patterns also offers the opportunity for a new market opportunity. For example, Coca-Cola aggressively pursued the water market by using its superior buyer value analysis and signaling capabilities to create a desirable brand (Dasani) and its strong international distribution capabilities to make it available for sale. In doing so, it ran the risk of cannibalizing the existing sales of sugary soft drinks. If the profits due to increased bottled water sales are forecasted to be equal to or greater than the concurrent loss in soda sales, then the SI would be perceived as consistent. Thus, another acquisition strategy may be to clearly incentivize existing partners to move away from older fuels by offering some sort of guarantee of purchase of the new desired energy source.

Positive Externality Generation

Corporations also carry out actions that generate benefits not fully captured by their shareholders and managers. We refer to these actions as *positive externality generation.* Positive operating externalities can result from commercial activities that create, maintain, or enhance the operations of others. One executive we interviewed noted how his company creates positive operating externalities by sponsoring teams for the Solar Decathlon. This is a competition for groups of students to create the best designs for solar-powered homes. Some of the value associated with this effort may accrue back to the company in terms of reinforcing its expressed commitment to solar power and identifying and recruiting engineering talent. However, the broader society gets some of the value because not all of the talent will be hired by the company, and new innovative breakthroughs may result in more environmentally sound energy solutions.

The biggest barrier to implementing these kinds of SIs is, once again, perceived consistency. For companies that require tangible and immediate indications of shareholder

value (i.e., economics first companies), this kind of SI is more difficult to implement. It is very difficult to quantify the benefits in total, let alone the relative portion accruing to the company. If the company has an economics-first perspective, then the case would have to be made just like any other capital budgeting exercise. What is the payback period? Can we achieve a positive return on investment (ROI)? What are the assumptions underlying the analysis? All these questions need to be answered, and the champion for the initiative should be prepared to do so.

Companies that have a more emerging-system or mission-driven orientation have less difficulty. They have already internalized the notion that initiatives that strengthen the overall system can have long-term benefits. In this case, the analysis hinges on clearly understanding the linkages between benefits to society and benefits to the company. In the case of the mission-driven company, the analysis simply depends on whether, given its mission, the initiative really puts the capabilities to their highest and best use.

There are many large mission-driven companies working in the area of sustainable development. Many of them are not-for-profits that have considerable expertise in understanding the science and barriers to implementation of efforts to shift energy consumption patterns. They are natural, positive externality producers. It may be that these can become important partners in the strategic shift to a more sustainable energy mix for the military. However, working with not-for-profits may require some adjustments in expectations and, again, new metrics that compare the likely value of not-for-profits and for-profit enterprises in creating value (i.e., reducing energy usage and/or accelerating the shift to new sources of energy).

The consumption of a business's product or service may also generate positive externalities. *Positive consumption externalities* are consumption experiences created by companies that reduce costs or create values that do not completely accrue to the firm. The biggest barriers to executing this type of SI are perceptions of the consumer in terms of consistency. If the target market for the SI sees it as a cynical or disingenuous effort (even if it is not), then the market is unlikely to exhibit the desired behavior. For customer-focused-based companies, perceived consistency depends on brand associations. If an CSR brand association is not present, the communication efforts are perceived cynically and have little effect (Wagner et al., 2009).

Here is an area where the military may not want to partner but instead build on its own considerable brand equity. The military is a very well-respected institution in this country. If it invests in strong consumption reduction programs that are successful, it has the capacity to influence a large portion of the public to imitate its efforts. This brings us to our final C: cultivating value.

Maximizing Shared Value: Cultivating the System Value

One of the reasons that large, global corporations are the focus of this study is because they have the resources and reach to make a difference across geographic regions because of the ownership of assets in multiple regions. Thus, global corporations can affect relatively rapid social changes in the system if they investment in SIs that reflect the capability and consistency noted previously.

However, to maximize shared value, other entities must be able to cultivate the portion aimed at the broader system beyond the shareholders. Even the largest corporations have a relatively small sphere of direct influence. If other organizations do not cultivate the societal value portion of the initiatives, then the large increases in value associated with shifts in standards and processes deemed necessary for sustainable development are unlikely to be achieved. If system value is cultivated, the long-term viability of the company

is likely to be enhanced through the creation of a more vibrant system. On the other hand, as long as the principle of consistency is not violated, the financial impact will be muted.

This cultivation process can be achieved in at least three ways. First, the global entity can influence supply chain partners to take their initiative and extend it to other entities. For instance, in many cases Wal-Mart is the largest purchaser of a supplier's product line. They have developed a huge initiative to influence supply-chain partners to make their processes less wasteful, to reduce costs, and to reduce their carbon footprint (Wal-Mart, 2010). When Wal-Mart influences changes in a supplier's processes to reduce environmental impacts, then the supplier likely changes its processes for all its customers to reduce the costs of running multiple processes to generate the same output. Thus, the societal value is cultivated. However, because Wal-Mart influenced how the processes were reconstituted, it is likely that the new processes mesh more tightly with Wal-Mart's processes than the other customers. Thus, Wal-Mart does not violate the principle of consistency.

Clearly, the military has as much or more clout with its supply chain in that it is often the single largest customer for its supply-chain partners. As such, if it demands stringent energy goals and provides technical assistance for how to achieve those goals, the value from a system perspective is likely to be cultivated.

In a less obvious example, taken from our interviews, a large electronics company set out to eliminate the use of bottled water at all its corporate events, thereby creating social value by reducing waste. Their engineers designed a process that was no more costly than using bottled water (thereby not violating the principle of consistency). From a cultivation standpoint, the new design took revenue away from bottled water producers and encouraged novel water suppliers. Switching from bottled water had a social driver, not a shareholder-value driver. But by applying social values in the market, they turned it into a financial issue for their suppliers.

The novel water supplier can point to the fact that it has a major customer, and this helps the supplier sell and serve others, while the traditional bottle water supplier loses business and has to think twice about its recyclability. This is an important avenue for nurturing new but smaller partners that ultimately fit well with the strategic plan in terms of required capabilities. Clearly, the military has opportunities to generate cultivation through nurturing relatively small companies that are developing technologies that have the potential to make big changes in energy usage. Indeed, the military has been instrumental in creating credibility for many small firms in the past.

A second way that cultivation can occur is by companies sharing technologies with other profit-seeking enterprises. The GreenXchange (2012) is one example of this type of cultivation. This organization is dedicated to sharing patents and ideas to help companies reduce environmental impacts. Members of The GreenXchange learn and build on what has come before from others in the exchange, cultivating system value. Our interviews also surfaced this method of cultivation.

> We're working with technology companies like IBM, HP, and INTEL to create solutions across the supply chain and around the world to produce information in real time. Technology as an enabler of sustainability is still in its infancy. A lot of the green IT market at the moment is IT addressing its own problems. IT will then enable the world to reduce the remaining 98% of emissions through smart buildings, smart logistics, smart transportation, smart electric grids. (Director of Sustainability, global consulting company)

Our interviews indicated that MNCs also share their technology with smaller mission-first and not-for-profit enterprises to enhance their ability to generate system value:

> Our lever is to bring [our technology] to the social entrepreneurs of the world, allowing them to become more efficient and effective. (Chief Technology and Sustainability Officer, B-B software company)
>
> We donate lots of equipment to academic institutions. (Head of Corporate Responsibility and Sustainability, large B-B hardware company)

The military has a long history of developing technologies that ultimately lead to significant shifts in how the system operates. However, it also has a predisposition to "classify" technologies for a long period of time, for security reasons. This may be an instance where it is time to see if there are technologies that are no longer considered proprietary by private companies that can be combined with military technologies that may or may not need to be proprietary at this stage of the technology life cycle to develop novel approaches in the shift in energy usage.

Perhaps a more interesting trend that emerged in our interviews is how cultivation may occur through a carefully considered engagement with specific non-profit organizations that offer complementary and synergistic capabilities to the enterprise. During our interviews, numerous examples of highly structured long-term collaborative relationships with non-profits emerged. In each case, the relationships were designed to maximize the long-term outcome of a specific SI beyond the capabilities of either the company or the non-profit alone.

> Ten years ago it was backslapping between CEO's and board members saying they had given so much money. Now it is about discreet competencies that corporations and non-profits can bring to solve problems. The general approach to collaboration has become more surgical focused on solving very specific environmental and social problems. (VP of Global Responsibility, consumer products company)
>
> In respect to the positive impact we're having on water and the environment, it's incredible what we've achieved with the WWF since the program started four years ago. We're only four years into this partnership with WWF. Initially we started focusing on 7 river basins and 15 countries. Since then we've launched in an additional 40 countries. They have 90 offices in the field which allows us to have a local connection everywhere. We've melded the people in the field so that now they're almost indistinguishable. (VP of the Environment and Water Resources, global consumer food company)

Note the length of time required to actually develop these novel partnerships between the private and not-for-profit sectors. There are significant trust issues to overcome because of differences in missions. Similar barriers are likely to be encountered should the military attempt to engage the not-for-profit community to take advantage of some unique capability. Acquisition managers will need to be patient and perhaps even develop new forms of partnership development to make these relationships successful.

Discussion

It has become increasingly clear that many managers of for-profit companies are interested in running their enterprises in a more socially responsible manner. The purpose of this exposition is to develop a framework that can guide managers who are interested in investing resources efficiently in the service of creating shared value for the company and broader society in which it operates. We began by asking two questions:

- What are the key success factors in successfully creating sustainable initiatives?
- Should all organizations engage in the same kind of sustainability initiatives?

In the next section, we summarize our research and provide guidance for acquisition managers.

Guidance for Managers and Policymakers

Our framework, guided by extant research and interviews with over 50 senior professionals involved in sustainability initiatives, suggests three factors for managers to consider in assessing whether such initiatives are likely to be successful. We propose that shared value of SIs will most likely be created when a company has and leverages its unique *capabilities*. However, our research suggests that leveraging capabilities is a necessary but not sufficient condition for maximizing shared value. We propose that the initiative is likely to be maximized only when it is perceived that the value is *consistently* accruing to both the company and other entities in the system, and that the value of the initiative to the system can be *cultivated* by other entities beyond the originating company.

We suggest that most companies that have a set of capabilities that make them capable of developing SIs focus on *operational externalities* (both negative reductions and positive generation) that generate at least moderate shared value. Thus, companies engaging in sustainability initiatives should first look to reduce negative operational externalities when considering SIs.

From a policy perspective, there has been a tremendous ongoing debate among scholars as to whether the public or private sector should take the lead in reducing negative externalities. Much of this debate traditionally has centered on the purpose of the company. The Friedman camp argues that the business of business is business—that is, providing goods and services to customers in a way that maximizes returns to shareholders. In this view, it is the public sector's role to regulate how returns can be maximized. The other view, espoused in much of the CSR literature, argues that companies have a broader set of responsibilities and should consider how their operations impact and should act accordingly. The analysis proposed in this study suggests that for reducing negative operating externalities, the conflict can be minimized and companies can use their superior capabilities in the service of shareholder and system value without violating the principle of consistency to maximize shared value.

Yet empirically, we still see a tremendous divergence in terms of how seriously companies attack negative externalities. Thus, one must ask why this still exists. One reason may be competitive pressures perceived by managers. Reducing negative externalities in the absence of regulation requiring competitors to do the same may be seen as putting the company at a disadvantage. Thus, it is incumbent on policymakers to put incentives in place to encourage companies to take on the upfront costs. This suggests strategically developing an acquisition plan around energy policies that help companies manage their upfront costs.

That is not to say that policymakers should impose how these negative externalities should be reduced. Our analysis suggests that most large companies have superior capabilities to bring to bear on the issue and can do this without seriously impairing shareholder value. The important point to remember is that different positional advantages rely on different capabilities. Thus, a one-size fits all approach to reducing negative operational externalities will not result in efficient solutions across companies. Acquisition policies would be better served to set targets for reduction and let the companies meet them.

On the opposite end, it seems that most companies are not going to achieve high shared value when engaging in social responses focused on negative consumption externality reduction. This may be because the company does not have the capability (as in the case of companies pursuing a cost-control positional advantage), but in most cases it is because of the execution problems associated with inconsistency of the systemic and shareholder goals of these SIs.

In essence, unless a company has clearly articulated to its employees that changing (and even reducing) consumption of a company's products is in the best interests of the company, managers attempting to execute the SI will be conflicted as to which value is paramount. Moreover, even if management is clear on the company's priorities, unless the company has a strong CSR brand or a profitable new market to enter, customers will be confused as well. Thus, companies attempting these types of SIs will not be putting their resources to their highest and best use.

One option is to leverage the military's strong brand to help reshape energy consumption behavior. Should the military want to pursue such a goal as part of broader strategic initiative, it would be well served to partner with a not-for-profit with complementary capabilities or create a separate entity of its own that would not have the consistency issues.

This brings us to our broader message for DoD managers who are truly interested in building a strategic plan towards generating a more sustainable energy policy. Managers should approach the creation of shared value in the same way they approach the assessment of an initiative focused solely on the explicit mission of acquisitions: assure that our fighting force is mission capable and have a technological edge over our adversaries. What are our capabilities? Can these capabilities be utilized in service of shared value—defined in this case as value to our fighting force and value to the broader society? If the answer to the last question is yes, then consider whether there are any significant conflicts between attaining societal value in the energy arena and our primary mission of maintaining a strong and technologically superior fighting force. However, one must be very careful not to automatically answer yes to the question of conflicts. Often, what seems to be a conflict on the surface can be translated into an opportunity to increase long-term shared value. A number of examples have been highlighted in this exposition, and many more can be found in the popular press.

If the DoD sees consistency between supporting the fighting force and social value, the final step is thinking up front how to leverage this initiative in terms of cultivating system value. After all, if there is consistency, then anything acquisitions does to encourage the spread of the practices enhances the core capability of our fighting force. Thus, cultivation mechanisms should be incorporated up front to ensure maximum speed of infrastructure creation and/or energy conservation across the whole system. This is the essence of strategy—thinking proactively about the full value that can be created by investments. Managers who think this way will often find feedback effects from system value to enhance the overall value-creating capacity of the initiative. That is, to support our men and women in uniform.

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